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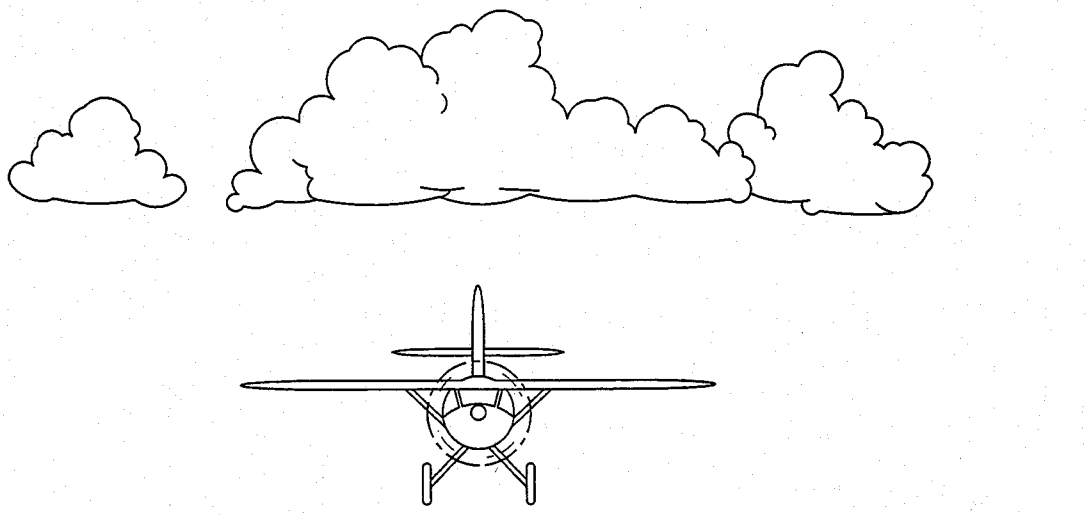
RECREATIONAL PILOT AND PRIVATE PILOT KNOWLEDGE TEST GUIDE



U.S. Department of Transportation
Federal Aviation Administration

RECREATIONAL PILOT
AND
PRIVATE PILOT
KNOWLEDGE TEST GUIDE

1995

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
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PREFACE

The Flight Standards Service of the Federal Aviation Administration (FAA) has developed this guide to help applicants meet the knowledge requirements for recreational pilot and private pilot certification.

This guide contains information about eligibility requirements, test descriptions, testing and retesting procedures, and sample test questions representative of those used in the official tests. Sample test questions and choices of answers are based on regulations, principles, and practices valid at the time this guide was printed. In addition, appendix 1 provides a list of reference materials and subject matter knowledge codes, and computer testing designees. The list of subject matter knowledge codes should be referred to when reviewing areas of deficiency on the airman test report. Changes to the subject matter knowledge code list will be published as a separate advisory circular.

The recreational pilot and private pilot test question bank and subject matter knowledge code list for all airmen certificates and ratings, with changes, may be obtained by computer modem from FedWorld at (703) 321-8020. This bulletin board service is provided by the U.S. Department of Commerce, 24 hours a day, 7 days per week. For technical assistance regarding computer software and modem requirements for this service, contact the FedWorld help desk at (703) 487-4608 from 7:30 a.m. to 5 p.m. EST, Monday through Friday.

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RECREATIONAL PILOT
AND
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KNOWLEDGE TEST GUIDE

INTRODUCTION

The FAA has available hundreds of computer testing centers nationwide. These testing centers offer the full range of airman knowledge tests including military competence, instrument foreign pilot, and pilot examiner predesignated tests. Refer to appendix 1 in this guide for a list of computer testing designees.

This knowledge test guide was developed to be used by applicants preparing to take a knowledge test for the following ratings:

Recreational Pilot — Airplane
Recreational Pilot — Rotorcraft/Helicopter
Recreational Pilot — Rotorcraft/Gyroplane
Private Pilot — Airplane/Recreational Pilot – Transition
Private Pilot — Helicopter/Recreational Pilot – Transition
Private Pilot — Gyroplane/Recreational Pilot – Transition
Private Pilot — Airplane
Private Pilot — Rotorcraft/Helicopter
Private Pilot — Rotorcraft/Gyroplane
Private Pilot — Glider
Private Pilot — Free Balloon – Hot Air
Private Pilot — Free Balloon – Gas
Private Pilot — Lighter-Than-Air – Airship

This guide is not offered as a quick and easy way to obtain the necessary information for passing the knowledge tests. There is no quick and easy way to obtain this knowledge in addition to the skills needed to transform a student into a pilot capable of operating safely in our complex national airspace system. Rather, the intent of this guide is to define and narrow the field of study, while directing the applicant to the required knowledge for obtaining a recreational pilot or a private pilot certificate.

ELIGIBILITY REQUIREMENTS

An applicant for a recreational pilot or private pilot certificate should review FAR Section 61.83, Eligibility requirements: Student pilots, for detailed information pertaining to eligibility.

An applicant for a recreational pilot certificate should review FAR Section 61.96, Eligibility requirements: Recreational pilots, for additional detailed information pertaining to eligibility.

An applicant for a private pilot certificate should review FAR Section 61.103, Eligibility requirements: General, for additional detailed information pertaining to eligibility.

KNOWLEDGE AREAS ON THE TESTS

The tests are comprehensive as they must test an applicant's knowledge in many subject areas.

An applicant for a recreational pilot certificate or added rating should review FAR Section 61.97, Aeronautical knowledge, for the knowledge areas on the tests.

An applicant for a private pilot certificate or added rating should review FAR Section 61.105, Aeronautical knowledge, for the knowledge areas on the tests.

DESCRIPTION OF THE TESTS

All test questions are the objective, multiple-choice type, with three choices of answers. Each question can be answered by the selection of a single response. Each test question is independent of other questions, that is, a correct response to one does not depend upon, or influence the correct response to another.

The maximum time allowed for taking each test is based on previous experience and educational statistics. This amount of time is considered adequate for applicants with proper preparation and instruction.

The following tests each contain 50 questions and 2 hours is allowed to take each test:

Recreational Pilot — Airplane
Recreational Pilot — Rotorcraft/Helicopter
Recreational Pilot — Rotorcraft/Gyroplane

The following tests each contain 30 questions and 1.5 hours is allowed to take each test:

Private Pilot — Airplane/Recreational Pilot – Transition
Private Pilot — Helicopter/Recreational Pilot – Transition
Private Pilot — Gyroplane/Recreational Pilot – Transition

The following tests each contain 60 questions and 2.5 hours is allowed to take each test:

Private Pilot — Airplane
Private Pilot — Rotorcraft/Helicopter
Private Pilot — Rotorcraft/Gyroplane
Private Pilot — Glider
Private Pilot — Free Balloon – Hot Air
Private Pilot — Free Balloon – Gas
Private Pilot — Lighter-Than-Air – Airship

Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a knowledge test is also an exercise in communication since it involves the use of the written language. Since the tests involve written rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each question in a clear, precise manner. Make sure you carefully read the instructions given with each test, as well as the statements in each test item.

When taking a test, keep the following points in mind:

1. Answer each question in accordance with the latest regulations and procedures.

2. Read each question carefully before looking at the possible answers. You should clearly understand the problem before attempting to solve it.

3. After formulating an answer, determine which choice most nearly corresponds with that answer. The answer chosen should completely resolve the problem.

4. From the answers given, it may appear that there is more than one possible answer. However, there is only one answer that is correct and complete. The other answers are either incomplete, erroneous, or represent common misconceptions.

5. If a certain question is difficult for you, it is best to mark it for **RECALL** and proceed to the next question. After you answer the less difficult questions, return to those which you marked for recall and answer them. The recall marking procedure will be explained to you prior to starting the test. Although the computer should alert you to unanswered questions, make sure every question has an answer recorded. This procedure will enable you to use the available time to maximum advantage.

6. When solving a calculation problem, select the answer nearest your solution. The problem has been checked with various types of calculators; therefore, if you have solved it correctly, your answer will be closer to the correct answer than any of the other choices.

TAKING A KNOWLEDGE TEST BY COMPUTER

You must determine what authorization requirements are necessary before going to the computer testing center. Testing center personnel cannot begin the test until you provide them with the proper authorization, if one is required. A limited number of tests require no authorization. In the case of retesting, you must present either a passed, expired passed (24 months old) or failed test report for that particular test. This policy is covered in FAA Order 8080.6, Conduct of Airmen Knowledge Tests via the Computer Medium. However, you should always check with your instructor or your local Flight Standards District Office if you are unsure of what kind of authorization to bring to the testing facility.

The next step is the actual registration process. Most computer testing centers require that all applicants contact a central 1-800 phone number. At this time, you should select a testing site of your choice, schedule a test date, and make financial arrangements for test payment.

You may register for tests several weeks in advance of the proposed testing date. You may also cancel your appointment up to 2 business days before test time, without financial penalty. After that time, you may be subject to a cancellation fee as determined by the testing center.

You are now ready to take the test. Remember, you always have an opportunity to take a sample test before the actual test begins. Your actual test is under a time limit, but if you know the material, there should be sufficient time to complete and review your test. Within moments of completing the test, you will receive an airman test report, which contains your score. It also lists those subject matter knowledge areas where questions were answered incorrectly. **The total number of subject matter knowledge codes shown on the test report is not necessarily an indication of the total number of questions answered incorrectly.** These codes refer to a list of knowledge areas that can be found in appendix 1 of this guide. You can study these knowledge areas to improve your understanding of the subject matter. Your instructor is required to review each of the knowledge areas listed on your airman test report with you, and complete an endorsement that remedial study was conducted in these deficient areas. The examiner may also quiz you on these areas of deficiency during the practical test.

The airman test report, which must show the computer testing company's embossed seal, is an important document. **DO NOT LOSE THE AIRMAN TEST REPORT** as you will need to present it to the examiner prior to taking the practical test. Loss of this report means that you will have to request a duplicate copy from the FAA in Oklahoma City. This will be costly and time consuming.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

Computer testing centers follow rigid testing procedures established by the FAA. This includes test security. When entering the test area, you are permitted to take only scratch paper furnished by the test administrator and an authorized aviation computer, plotter, etc., approved for use in accordance with FAA Order 8080.6, Conduct of Airmen Knowledge Testing via the Computer Medium, and AC 60-11, Aids Authorized for Use by Airman Written Test Applicants. The FAA has directed testing centers to stop a test any time a test administrator suspects a cheating incident has occurred. An FAA investigation will then follow. If the investigation determines that cheating or other unauthorized conduct has occurred, any airman certificate that you hold may be revoked, and you may not be allowed to take a test for 1 year.

RETESTING PROCEDURES

If the score on the airman test report is 70 or above, in most cases the report is valid for 24 calendar months. You may elect to retake the test, in anticipation of a better score, after 30 days from the date your last test was taken. Prior to retesting, you must give your current airman test report to the computer testing administrator. Remember, the score of the **latest** test you take will become the official test score. The FAA will not consider allowing anyone to retake a valid test before the 30-day remedial study period.

A person who fails a knowledge test may apply for retesting before 30 days of the last test providing that person presents the failed test report and an endorsement from an authorized instructor certifying that additional instruction has been given, and the instructor finds the person competent to pass the test. A person may retake a failed test after 30 days without an endorsement from an authorized instructor.

SAMPLE TEST QUESTIONS AND ANSWERS
RECREATIONAL PILOT —AIRPLANE (RPA)

1. A recreational pilot acting as pilot in command must have in his/her personal possession while aboard the aircraft

A—a current logbook endorsement to show that a flight review has been satisfactorily accomplished.
B—the current and appropriate pilot and medical certificates.
C—the pilot logbook to show recent experience requirements to serve as pilot in command have been met.

Answer B—Subject Matter Code: A29.

2. One of the main functions of flaps during approach and landing is to

A—decrease the angle of descent without increasing the airspeed.
B—permit a touchdown at a higher indicated airspeed.
C—increase the angle of descent without increasing the airspeed.

Answer C—Subject Matter Code: H02.

3. A temperature inversion would most likely result in which weather condition?

A—Clouds with extensive vertical development above an inversion aloft.
B—Good visibility in the lower levels of the atmosphere and poor visibility above an inversion aloft.
C—An increase in temperature as altitude is increased.

Answer C—Subject Matter Code: I21.

4. When telephoning a weather briefing facility for preflight weather information, pilots should

A—identify themselves as pilots.
B—tell the number of hours they have flown within the preceding 90 days.
C—state the number of occupants on board and the color of the aircraft.

Answer A—Subject Matter Code: H05.

5. What action can a pilot take to aid in cooling an engine that is overheating during a climb?

A—Reduce rate of climb and increase airspeed.
B—Reduce climb speed and increase RPM.
C—Increase climb speed and increase RPM.

Answer A—Subject Matter Code: H02.

SAMPLE TEST QUESTIONS AND ANSWERS
RECREATIONAL PILOT — ROTORCRAFT/HELICOPTER (RPH)

1. What exception, if any, permits a recreational pilot to act as pilot in command of an aircraft carrying a passenger for hire?

A—If the passenger pays no more than the operating expenses.
B—If a donation is made to a charitable organization for the flight.
C—There is no exception.

Answer C—Subject Matter Code: A29.

2. The lift differential that exists between the advancing main rotor blade and the retreating main rotor blade is known as

A—transverse flow effect.
B—dissymmetry of lift.
C—hunting tendency.

Answer B—Subject Matter Code: H71.

3. The amount of water vapor which air can hold depends on the

A—dewpoint.
B—air temperature.
C—stability of the air.

Answer B—Subject Matter Code: I24.

4. When telephoning a weather briefing facility for preflight weather information, pilots should state the

A—full name and address of the pilot in command.
B—intended route, destination, and type of aircraft.
C—radio frequencies to be used.

Answer B—Subject Matter Code: H05.

5. What action should the pilot take if engine failure occurs at altitude?

A—Open the throttle as the collective pitch is raised.
B—Reduce cyclic back stick pressure during turns.
C—Lower the collective pitch control, as necessary, to maintain rotor RPM.

Answer C—Subject Matter Code: H80.

SAMPLE TEST QUESTIONS AND ANSWERS
RECREATIONAL PILOT — ROTORCRAFT/GYROPLANE (RPG)

1. A recreational pilot may fly as sole occupant of an aircraft at night while under the supervision of a flight instructor provided the flight or surface visibility is at least

A—3 miles.
B—4 miles.
C—5 miles.

Answer C—Subject Matter Code: A29.

2. What precaution should be taken while taxiing a gyroplane?

A—The cyclic stick should be held in the neutral position at all times.
B—Avoid abrupt control movements when blades are turning.
C—The cyclic stick should be held slightly aft of neutral at all times.

Answer B—Subject Matter Code: H94.

3. What are characteristics of unstable air?

A—Turbulence and good surface visibility.
B—Turbulence and poor surface visibility.
C—Nimbostratus clouds and good surface visibility.

Answer A—Subject Matter Code: I25.

4. When telephoning a weather briefing facility for preflight weather information, pilots should state

A—the full name and address of the formation commander.
B—that they possess a current pilot certificate.
C—whether they intend to fly VFR only.

Answer C—Subject Matter Code: H05.

5. A below glide slope indication from a tri-color VASI is a

A—red light signal.
B—pink light signal.
C—green light signal.

Answer A—Subject Matter Code: J03.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — AIRPLANE/RECREATIONAL PILOT – TRANSITION (PAT)

1. In addition to other preflight actions for a VFR flight away from the vicinity of the departure airport, regulations specifically require the pilot in command to

A—review traffic control light signal procedures.
B—check the accuracy of the navigation equipment and the emergency locator transmitter (ELT).
C—determine runway lengths at airports of intended use and the aircraft's takeoff and landing distance data.

Answer C—Subject Matter Code: B07.

2. While cruising at 9,500 feet MSL, the fuel/air mixture is properly adjusted. What will occur if a descent to 4,500 feet MSL is made without readjusting the mixture?

A—The fuel/air mixture may become excessively lean.
B—There will be more fuel in the cylinders than is needed for normal combustion, and the excess fuel will absorb heat and cool the engine.
C—The excessively rich mixture will create higher cylinder head temperatures and may cause detonation.

Answer A—Subject Matter Code: H02.

3. If a flight is made from an area of low pressure into an area of high pressure without the altimeter setting being adjusted, the altimeter will indicate

A—the actual altitude above sea level.
B—higher than the actual altitude above sea level.
C—lower than the actual altitude above sea level.

Answer C—Subject Matter Code: I22.

4. (Refer to figure 1.) An aircraft departs an airport in the eastern daylight time zone at 0945 EDT for a 2-hour flight to an airport located in the central daylight time zone. The landing should be at what coordinated universal time?

A—1345Z.
B—1445Z.
C—1545Z.

Answer C—Subject Matter Code: H07.

5. How is engine operation controlled on an engine equipped with a constant-speed propeller?

A—The throttle controls power output as registered on the manifold pressure gauge and the propeller control regulates engine RPM.
B—The throttle controls power output as registered on the manifold pressure gauge and the propeller control regulates a constant blade angle.
C—The throttle controls engine RPM as registered on the tachometer and the mixture control regulates the power output.

Answer A—Subject Matter Code: H02.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — HELICOPTER/RECREATIONAL PILOT – TRANSITION (PHT)

1. Under what conditions, if any, may a private pilot operate a helicopter under special VFR at night within Class D airspace?

A—The helicopter must be fully instrument equipped and the pilot must be instrument rated.
B—The flight visibility must be at least 1 mile.
C—There are no conditions; regulations permit this.

Answer C—Subject Matter Code: B09.

2. (Refer to figure 2.) During flight, if cyclic control pressure is applied which results in a maximum increase in pitch angle of the rotor blade at position A, the rotor disc will tilt

A—forward.
B—aft.
C—left.

Answer A—Subject Matter Code: H71.

3. One weather phenomenon which will always occur when flying across a front is a change in the

A—wind direction.
B—type of precipitation.
C—stability of the air mass.

Answer A—Subject Matter Code: I27.

4. (Refer to figure 1.) An aircraft departs an airport in the central standard time zone at 0845 CST for a 2-hour flight to an airport located in the mountain standard time zone. The landing should be at what coordinated universal time?

A—1345Z.
B—1445Z.
C—1645Z.

Answer C—Subject Matter Code: H07.

5. Which initial action should a pilot take prior to entering Class C airspace?

A—Contact approach control on the appropriate frequency.
B—Contact the tower and request permission to enter.
C—Contact the FSS for traffic advisories.

Answer A—Subject Matter Code: J11.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — GYROPLANE/RECREATIONAL PILOT – TRANSITION (PGT)

1. Except in Alaska, during what time period should lighted position lights be displayed on an aircraft?

A—End of evening civil twilight to the beginning of morning civil twilight.
B—1 hour after sunset to 1 hour before sunrise.
C—Sunset to sunrise.

Answer C—Subject Matter Code: B11.

2. If the pilot experiences ground resonance during rotor spin-up, what action should the pilot take?

A—Taxi to a smooth area.
B—Close the throttle and slowly raise the spin-up lever.
C—Make a normal takeoff immediately.

Answer B—Subject Matter Code: H91.

3. Individual forecasts for specific routes of flight can be obtained from which weather source?

A—Transcribed Weather Broadcasts (TWEB's).
B—Terminal Forecasts.
C—Area Forecasts.

Answer A—Subject Matter Code: I40.

4. (Refer to figure 1.) An aircraft departs an airport in the Pacific standard time zone at 1030 PST for a 4-hour flight to an airport located in the central standard time zone. The landing should be at what coordinated universal time?

A—2030Z.
B—2130Z.
C—2230Z.

Answer C—Subject Matter Code: H07.

5. When taking off or landing at an airport where heavy aircraft are operating, one should be particularly alert to the hazards of wingtip vortices because this turbulence tends to

A—rise from a crossing runway into the takeoff or landing path.
B—rise into the traffic pattern area surrounding the airport.
C—sink into the flightpath of aircraft operating below the aircraft generating the turbulence.

Answer C—Subject Matter Code: J27.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — AIRPLANE (PAR)

1. The three takeoffs and landings that are required to act as pilot in command at night must be done during the time period from

A—sunset to sunrise.
B—1 hour after sunset to 1 hour before sunrise.
C—the end of evening civil twilight to the beginning of morning civil twilight.

Answer B—Subject Matter Code: A20.

2. In what flight condition is torque effect the greatest in a single-engine airplane?

A—Low airspeed, high power, high angle of attack.
B—Low airspeed, low power, low angle of attack.
C—High airspeed, high power, high angle of attack.

Answer A—Subject Matter Code: H01.

3. The wind at 5,000 feet AGL is southwesterly while the surface wind is southerly. This difference in direction is primarily due to

A—stronger pressure gradient at higher altitudes.
B—friction between the wind and the surface.
C—stronger Coriolis force at the surface.

Answer B—Subject Matter Code: I23.

4. (Refer to figure 3, illustration 1.) The VOR receiver has the indications shown. What is the aircraft's position relative to the station?

A—North.
B—East.
C—South.

Answer C—Subject Matter Code: H07.

5. The most effective method of scanning for other aircraft for collision avoidance during nighttime hours is to use

A—regularly spaced concentration on the 3-, 9-, and 12-o'clock positions.
B—a series of short, regularly spaced eye movements to search each 30-degree sector.
C—peripheral vision by scanning small sectors and utilizing offcenter viewing.

Answer C—Subject Matter Code: H63.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — ROTORCRAFT/HELICOPTER (PRH)

1. No person may begin a flight in a rotorcraft under VFR unless there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly thereafter for at least

A—20 minutes.
B—30 minutes.
C—1 hour.

Answer A—Subject Matter Code: B09.

2. During forward cruising flight at constant airspeed and altitude, the individual rotor blades, when compared to each other, are operating

A—with increased lift on the retreating blade.
B—with a decreasing angle of attack on the advancing blade.
C—at unequal airspeed, unequal angles of attack, and equal lift moment.

Answer C—Subject Matter Code: H71.

3. Which conditions result in the formation of frost?

A—The temperature of the collecting surface is at or below freezing when small droplets of moisture fall on the surface.
B—The temperature of the collecting surface is at or below the dewpoint of the adjacent air and the dewpoint is below freezing.
C—The temperature of the surrounding air is at or below freezing when small drops of moisture fall on the collecting surface.

Answer B—Subject Matter Code: I24.

4. (Refer to figure 3, illustration 3.) The VOR receiver has the indications shown. What is the aircraft's position relative to the station?

A—East.
B—Southeast.
C—West.

Answer B—Subject Matter Code: H07.

5. Under what condition, if any, may pilots fly through a restricted area?

A—When flying on airways with an ATC clearance.
B—With the controlling agency's authorization.
C—Regulations do not allow this.

Answer B—Subject Matter Code: J09.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — ROTORCRAFT/GYROPLANE (PRG)

1. A special VFR clearance authorizes the pilot of an aircraft to operate VFR while within Class D airspace when the visibility is

A—less than 1 mile and the ceiling is less than 1,000 feet.
B—at least 1 mile and the aircraft can remain clear of clouds.
C—at least 3 miles and the aircraft can remain clear of clouds.

Answer B—Subject Matter Code: B09.

2. High airspeeds, particularly in turbulent air, should be avoided primarily because of the possibility of

A—an abrupt pitchup.
B—retreating blade stall.
C—a low-frequency vibration developing.

Answer B—Subject Matter Code: H78.

3. What measurement can be used to determine the stability of the atmosphere?

A—Atmospheric pressure.
B—Actual lapse rate.
C—Surface temperature.

Answer B—Subject Matter Code: I25.

4. (Refer to figure 3, illustration 8.) The VOR receiver has the indications shown. What radial is the aircraft crossing?

A—030.
B—210.
C—300.

Answer A—Subject Matter Code: H07.

5. VFR approaches to land at night should be accomplished

A—at a higher airspeed.
B—with a steeper descent.
C—the same as during daytime.

Answer C—Subject Matter Code: H63.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — GLIDER (PGL)

1. The minimum allowable strength of a towline used for an aerotow of a glider having a certificated gross weight of 700 pounds is

A—560 pounds.
B—700 pounds.
C—1,000 pounds.

Answer A—Subject Matter Code: B12.

2. A sailplane has a best glide ratio of 23:1. How many feet will the glider lose in 8 nautical miles?

A—1,840 feet.
B—2,100 feet.
C—2,750 feet.

Answer B—Subject Matter Code: N27.

3. What cloud types would indicate convective turbulence?

A—Cirrus clouds.
B—Nimbostratus clouds.
C—Towering cumulus clouds.

Answer C—Subject Matter Code: I26.

4. When telephoning a weather briefing facility for preflight weather information, pilots should

A—identify themselves as pilots.
B—tell the number of hours they have flown within the preceding 90 days.
C—state the number of occupants on board and the color of the aircraft.

Answer A—Subject Matter Code: H05.

5. What minimum upward current must a glider encounter to maintain altitude?

A—At least 2 feet per second.
B—The same as the glider's sink rate.
C—The same as the adjacent down currents.

Answer B—Subject Matter Code: I35.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — FREE BALLOON – HOT AIR (PBH)

1. Prior to becoming certified as a private pilot with a balloon rating, the pilot must have at least

A—passed a third-class medical exam.
B—obtained a statement from a designated medical examiner.
C—made a statement certifying that he/she has no known medical deficiency that would make him/her unable to act as pilot.

Answer C—Subject Matter Code: A23.

2. If ample propane is available, within which temperature range will propane vaporize sufficiently to provide enough pressure for burner operation during flight?

A—0 to 30 °F.
B—10 to 30 °F.
C—30 to 90 °F.

Answer C—Subject Matter Code: O02.

3. The conditions necessary for the formation of cumulonimbus clouds are a lifting action and

A—unstable air containing an excess of condensation nuclei.
B—unstable, moist air.
C—either stable or unstable air.

Answer B—Subject Matter Code: I30.

4. When telephoning a weather briefing facility for preflight weather information, pilots should state the

A—full name and address of the pilot in command.
B—intended route, destination, and type of aircraft.
C—radio frequencies to be used.

Answer B—Subject Matter Code: H05.

5. When telephoning a weather briefing facility for preflight weather information, pilots should state

A—the full name and address of the formation commander.
B—that they possess a current pilot certificate.
C—whether they intend to fly VFR only.

Answer C—Subject Matter Code: H05.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — FREE BALLOON – GAS (PBG)

1. The person directly responsible for the pre-launch briefing of passengers for a flight is the

A—safety officer.
B—pilot in command.
C—ground crewmember.

Answer B—Subject Matter Code: B07.

2. What is the relationship of false lift with the wind?

A—False lift increases as the wind accelerates the balloon.
B—False lift does not exist if the surface winds are calm.
C—False lift decreases as the wind accelerates the balloon.

Answer C—Subject Matter Code: O30.

3. What conditions are necessary for the formation of thunderstorms?

A—High humidity, lifting force, and unstable conditions.
B—High humidity, high temperature, and cumulus clouds.
C—Lifting force, moist air, and extensive cloud cover.

Answer A—Subject Matter Code: I30.

4. When telephoning a weather briefing facility for preflight weather information, pilots should state

A—the full name and address of the formation commander.
B—that they possess a current pilot certificate.
C—whether they intend to fly VFR only.

Answer C—Subject Matter Code: H05.

5. The minimum size a launch site should be is at least

A—twice the height of the balloon.
B—100 feet for every 1 knot of wind.
C—500 feet on the downwind side.

Answer B—Subject Matter Code: O30.

SAMPLE TEST QUESTIONS AND ANSWERS
PRIVATE PILOT — LIGHTER-THAN-AIR – AIRSHIP (PLA)

1. An aircraft's annual inspection was performed on July 12, this year. The next annual inspection will be due no later than

A—July 1, next year.
B—July 13, next year.
C—July 31, next year.

Answer C—Subject Matter Code: B13.

2. Under which condition will an airship float in the air?

A—When buoyant force equals horizontal equilibrium existing between propeller thrust and airship drag.
B—When buoyant force is less than the difference between airship weight and the weight of the air volume being displaced.
C—When buoyant force equals the difference between airship weight and the weight of the air volume being displaced.

Answer C—Subject Matter Code: P01.

3. Ceiling is defined as the height above the Earth's surface of the

A—lowest reported obscuration and the highest layer of clouds reported as overcast.
B—lowest layer of clouds or obscuring phenomena reported as broken, overcast, and not classified as thin or partial.
C—lowest layer of clouds reported as scattered, broken, or thin.

Answer B—Subject Matter Code: I41.

4. When the course deviation indicator (CDI) needle is centered during an omnireceiver check using a VOR test signal (VOT), the omnibearing selector (OBS) and the TO/FROM indicator should read

A—180° FROM, only if the pilot is due north of the VOT.
B—0° TO or 180° FROM, regardless of the pilot's position from the VOT.
C—0° FROM or 180° TO, regardless of the pilot's position from the VOT.

Answer C—Subject Matter Code: J01.

5. Which takeoff procedure is considered to be most hazardous for an airship?

A—Maintaining only 50 percent of the maximum permissible positive angle of inclination.
B—Failing to apply full engine power properly on all takeoffs, regardless of wind.
C—Maintaining a negative angle of inclination during takeoff after elevator response is adequate for controllability.

Answer C—Subject Matter Code: P09.

APPENDIX 1

LIST OF REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES

The publications listed in the following pages contain study material you need to be familiar with when preparing for recreational pilot and private pilot knowledge tests. All of these publications can be purchased through U.S. Government bookstores, commercial aviation supply houses, or industry organizations. The latest revision of the listed references should be requested. Additional study material is also available through these sources that may be helpful in preparing for recreational pilot and private pilot knowledge tests.

The subject matter knowledge codes establish the specific reference for the knowledge standard. When reviewing results of your knowledge test, you should compare the subject matter knowledge code(s) on your airman test report to the ones found below. This will be helpful for both review and preparation for the practical test.

FAR 1 Definitions and Abbreviations

A01 General Definitions
A02 Abbreviations and Symbols

FAR 43 Maintenance, Preventive Maintenance Rebuilding, and Alteration

A15 General
A16 Appendixes

FAR 61 Certification: Pilots and Flight Instructors

A20 General
A21 Aircraft Ratings and Special Certificates
A22 Student Pilots
A23 Private Pilots

FAR 71 Designation of Class A, Class B, Class C, Class D, and Class E Airspace Areas; Airways; Routes; and Reporting Points

A60 General - Class A Airspace

FAR 91 General Operating and Flight Rules

B07 General
B08 Flight Rules - General
B09 Visual Flight Rules
B11 Equipment, Instrument, and Certification Requirements
B12 Special Flight Operations
B13 Maintenance, Preventive Maintenance, and Alterations

NTSB 830 Rules Pertaining to the Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records

G10 General
G11 Initial Notification of Aircraft Accidents, Incidents, and Overdue Aircraft
G12 Preservation of Aircraft Wreckage, Mail, Cargo, and Records
G13 Reporting of Aircraft Accidents, Incidents, and Overdue Aircraft

AC 61-23 Pilot's Handbook of Aeronautical Knowledge

H01 Principles of Flight
H02 Airplanes and Engines
H03 Flight Instruments
H04 Airplane Performance
H05 Weather
H06 Basic Calculations Using Navigational Computers or Electronic Calculators
H07 Navigation
H09 Appendix 1: Obtaining FAA Publications

AC 61-21 Flight Training Handbook

H50 Introduction To Flight Training
H52 Introduction to the Basics of Flight
H54 Ground Operations
H58 Landing Approaches and Landings
H60 Proficiency Flight Maneuvers
H63 Night Flying
H66 Principles of Flight and Performance Characteristics

AC 61-13 Basic Helicopter Handbook

H70 General Aerodynamics
H71 Aerodynamics of Flight
H73 Function of the Controls
H74 Other Helicopter Components and Their Functions
H76 Weight and Balance
H78 Some Hazards of Helicopter Flight
H79 Precautionary Measures and Critical Conditions
H80 Helicopter Flight Maneuvers
H81 Confined Area, Pinnacle, and Ridgeline Operations

Gyroplane Flight Training Manual - McCulloch

H91 Gyroplane Terms
H94 Basic Flight Maneuvers (Gyroplane)

AC 00-6 Aviation Weather

I21 Temperature
I22 Atmospheric Pressure and Altimetry
I23 Wind
I24 Moisture, Cloud Formation, and Precipitation
I25 Stable and Unstable Air
I26 Clouds
I27 Air Masses and Fronts
I28 Turbulence
I29 Icing
I30 Thunderstorms
I31 Common IFR Producers
I33 Arctic Weather
I35 Soaring Weather
I36 Glossary of Weather Terms

AC 00-45 Aviation Weather Services

I40 The Aviation Weather Service Program
I41 Surface Aviation Weather Reports
I42 Pilot and Radar Reports and Satellite Pictures
I43 Aviation Weather Forecasts
I44 Surface Analysis Chart
I45 Weather Depiction Chart
I46 Radar Summary Chart
I47 Significant Weather Prognostics

AIM Airman's Information Manual

J01 Air Navigation Radio Aids
J03 Airport Lighting Aids
J05 Airport Marking Aids and Signs
J08 Controlled Airspace
J09 Special Use Airspace
J10 Other Airspace Areas
J11 Service Available to Pilots
J12 Radio Communications Phraseology and Techniques
J13 Airport Operations
J14 ATC Clearance/Separations
J15 Preflight
J22 Emergency Procedures Available to Pilots
J25 Meteorology
J27 Wake Turbulence
J31 Fitness for Flight
J33 Pilot Controller Glossary
J34 Airport/Facility Directory
J37 Sectional Chart

AC 67-2 Medical Handbook for Pilots

J52 Hypoxia
J53 Hyperventilation
J58 Carbon Monoxide
J60 Night Flight
J61 Cockpit Lighting
J62 Disorientation (Vertigo)

Additional Advisory Circulars

M52 AC 00-2, Advisory Circular Checklist

American Soaring Handbook — Soaring Society of America

N03 Ground Launch

Soaring Flight Manual — Jeppesen-Sanderson, Inc.

N20 Sailplane Aerodynamics
N21 Performance Considerations
N22 Flight Instruments
N23 Weather for Soaring
N27 Computations for Soaring
N30 Aerotow Launch Procedures
N32 Basic Flight Maneuvers and Traffic
N34 Cross-Country Soaring

Taming The Gentle Giant — Taylor Publishing

O01 Design and Construction of Balloons
O02 Fuel Source and Supply
O03 Weight and Temperature
O05 Balloon Flight Tips

Flight Instructor Manual — Balloon Federation of America

O10 Flight Instruction Aids

Propane Systems — Balloon Federation of America, 1991

O24 Repair and Maintenance

Powerline Excerpts — Balloon Federation of America

O30 Excerpts

Goodyear Airship Operations Manual

P01 Buoyancy
P03 Free Ballooning
P04 Aerostatics

SUPPLEMENTAL STUDY REFERENCE MATERIALS

FAA Accident Prevention Program Bulletins

V01 FAA-P-8740-2, Density Altitude
V02 FAA-P-8740-5, Weight and Balance
V03 FAA-P-8740-12, Thunderstorms
V04 FAA-P-8740-19, Flying Light Twins Safely
V05 FAA-P-8740-23, Planning Your Takeoff
V06 FAA-P-8740-24, Tips on Winter Flying
V07 FAA-P-8740-25, Always Leave Yourself an Out
V08 FAA-P-8740-30, How to Obtain a Good Weather Briefing
V09 FAA-P-8740-40, Wind Shear
V10 FAA-P-8740-41, Medical Facts For Pilots
V11 FAA-P-8740-44, Impossible Turns
V12 FAA-P-8740-48, On Landings, Part I
V13 FAA-P-8740-49, On Landings, Part II
V14 FAA-P-8740-50, On Landings, Part III
V15 FAA-P-8740-51, How to Avoid a Midair Collision
V16 FAA-P-8740-52, The Silent Emergency

NOTE: AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (AC's), as well as FAA internal publications and miscellaneous flight information such as Airman's Information Manual (AIM), Airport/Facility Directory, practical test standards, knowledge test guides, and other material directly related to airman certificates and ratings. To obtain a free copy of AC 00-2, send your request to:

U.S. Department of Transportation
General Services Section, M-45.3
Washington, DC 20590

COMPUTER TESTING DESIGNEES

The following is a list of the computer testing designees authorized to give FAA knowledge tests. This list should be helpful in choosing where to register for a test or for requesting additional information.

Aviation Business Services
1-800-947-4228
outside U.S. (415) 259-8550

Drake Prometric
1-800-359-3278
outside U.S. (612) 896-7702

Sylvan Learning Systems, Inc.
1-800-967-1100
outside U.S. (410) 880-0880, Extension 8890

The latest listing of computer testing center locations may be obtained through FedWorld, (703) 321-8020, in the FAA library file named TST_SITE. For technical assistance, contact the FedWorld help desk at (703) 487-4608.

APPENDIX 2

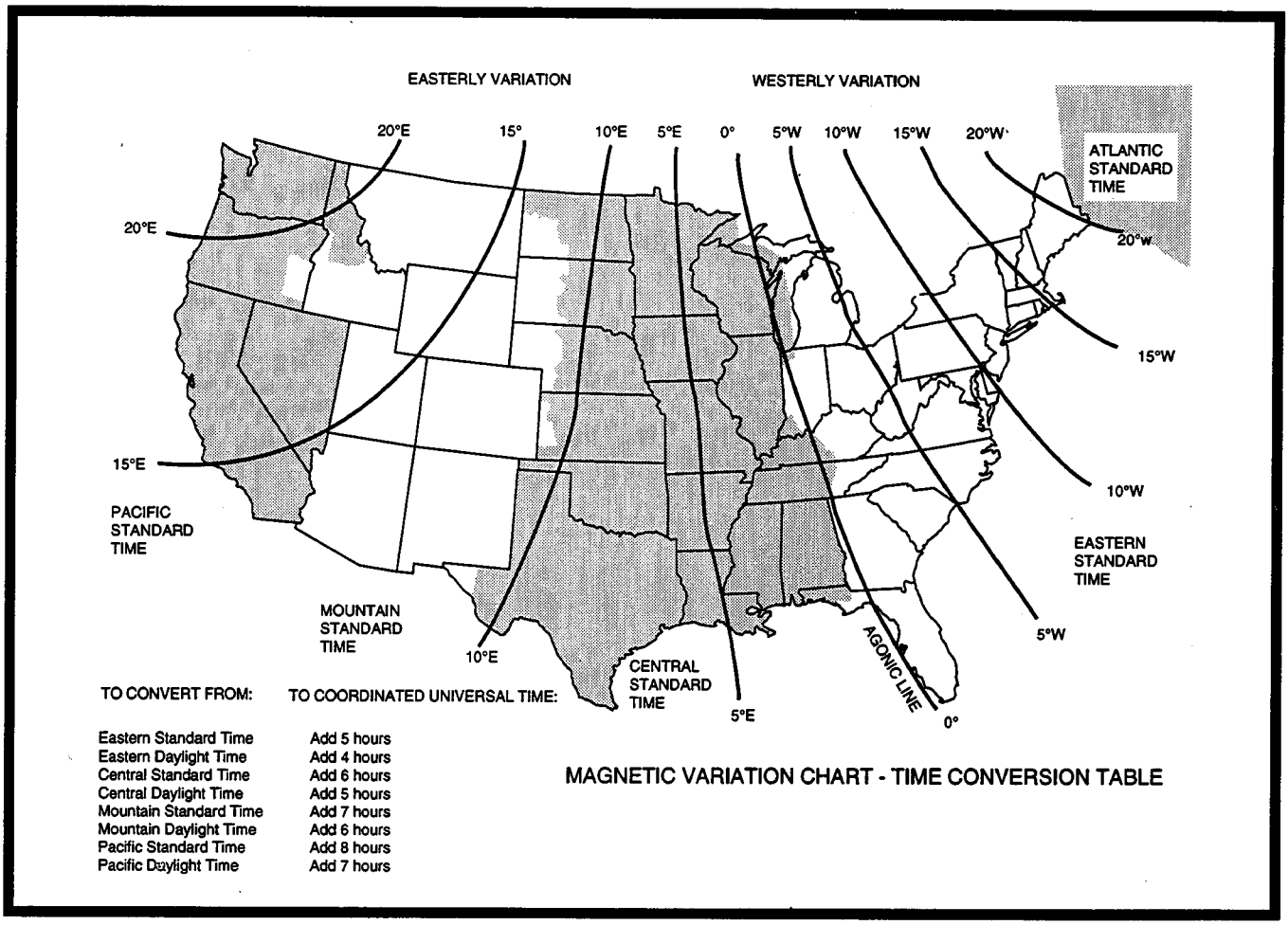

FIGURE 1.—Time Conversion Table.

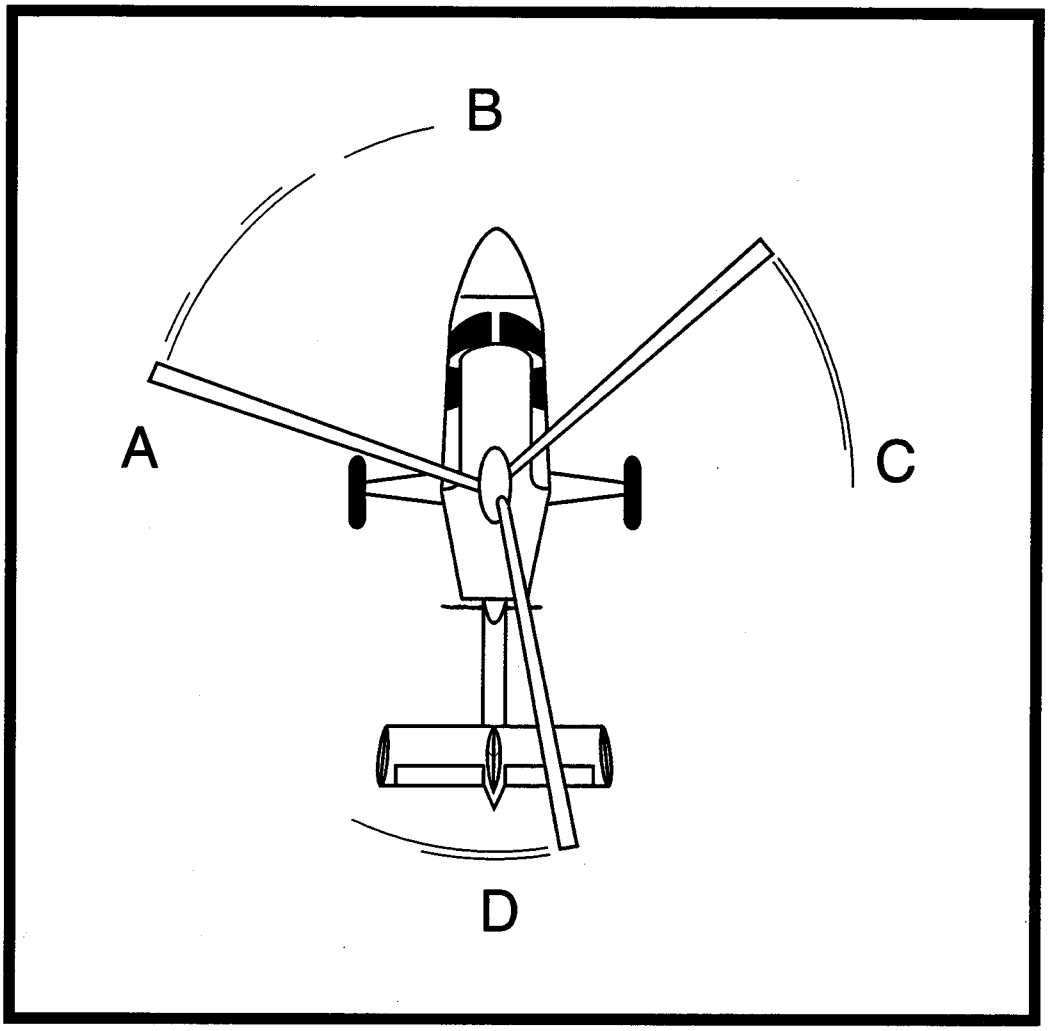

FIGURE 2.—Gyroplane Rotor Blade Position.

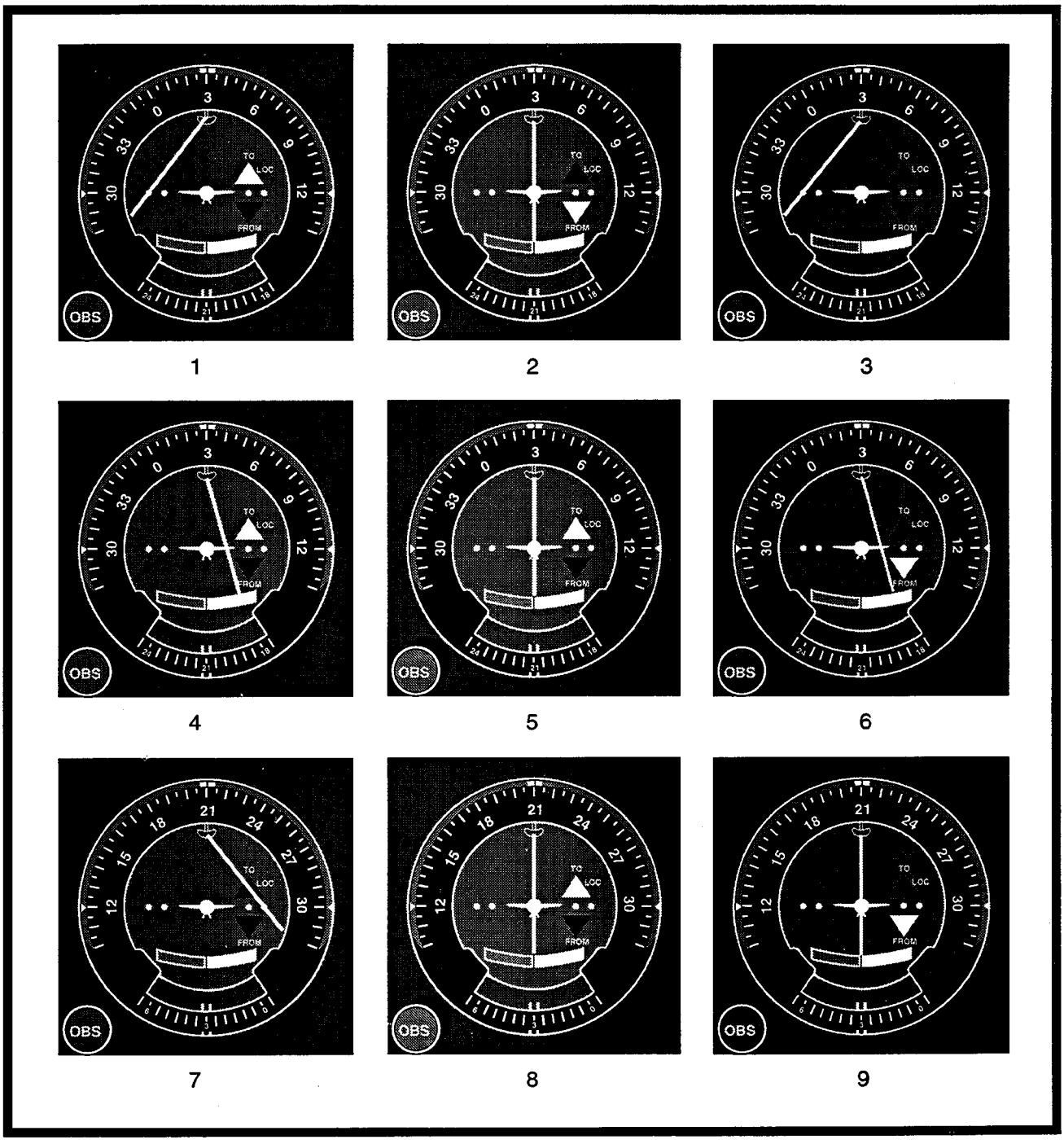

FIGURE 3.—VOR.

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